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| **Materials Needed for Complete Exercise** | | |
| **Item** | **Supply company** | **Item Number** |
| **Advance Preparation** | | |
| *D. melanogaster heat shock white-eyed strain (TE near eye color gene)* | Bloomington Drosophila Stock Center  (<http://flystocks.bio.indiana.edu/>) | 60739 |
| *D. melanogaster heat shock white-eyed strain*  *(TE far from eye color gene)* | Bloomington Drosophila Stock Center | 60740 |
| *D. melanogaster Zimbabwe (wild-type) S29* | Bloomington Drosophila Stock Center | 60741 |
| Carolina Drosophila Kit (FlyNap®, 72 vials, 72 plugs, media, labels, transfer cards) | Carolina Biological Supply ([www.carolina.com](http://www.carolina.com)) | 173052 |
| Carbon Dioxide Anesthetizer (optional) | Carolina Biological Supply | 173034 |
| **Day 2: Inheritance and X-linkage** | | |
| Sorting Brushes (optional) | Carolina Biological Supply | 173094 |
| **Day 3: DNA Extraction** | | |
| DNA Extraction Buffer | Reagents needed: 10mM Tris-HCl, pH 8.2; 1mM EDTA; 25mM NaCl |  |
| Proteinase K (20 mg/mL) | Reagents needed: 0.02g Proteinase-K (Sigma Aldrich: P-6556); 0.6ml 10mM Tris-HCl, pH 7.6; 0.4ml glycerol |  |
| Proteinase K Solution (20 mg/mL)  (Alternative to above) | New England BioLabs, Inc.  ([www.neb.com](http://www.neb.com)) | P8107S |
| 1.7-ml Microcentrifuge tubes | Genesee Scientific  ([www.geneseesci.com](http://www.geneseesci.com)) | 22-281 |
| 0.2-ml 8-strip PCR tubes | Genesee Scientific | 27-125 |
| **Day 3: PCR** | | |
| Oligonucleotide Primers (see below for specifications) | IDT DNA ([www.idtdna.com/calc/analyzer](http://www.idtdna.com/calc/analyzer)) |  |
| 0.2-ml 8-strip PCR tubes | Genesee Scientific | 27-125 |
| DNA Taq Polymerase | New England BioLabs, Inc. | M0267S |
| 10X ThermoPol PCR buffer (20mM Mg++) | New England BioLabs, Inc. | M0267S |
| Deoxynucleotide Set (100mM) or  Deoxynucleotide Mix  (40mM) | Bioline USA Inc.  ([www.bioline.com/us/](http://www.bioline.com/us/))  Bioline USA Inc. | BIO-39025  BIO-39043 |
| Thermal cycler (Applied Biosystems® 2720 ) | Life Technologies Corp.  ([www.lifetechnologies.com/us/en/home.html](http://www.lifetechnologies.com/us/en/home.html)) | 4359659 |
| **Day 4: Gel electrophoresis** | | |
| Agarose LE | Agarose Products  ([agaroseproducts.com](http://agaroseproducts.com/)) | AP101 |
| 20X Lithium Borate Buffer | Faster Better Media LLC | LB20-1 |
| SYBR® Safe DNA Gel Stain (Invitrogen™) | Life Technologies Corp. | S33102 |
| 100-bp DNA ladder | New England BioLabs, Inc. | N3231S or L |
| 6X Gel Loading Dye (Bromophenol Blue) | New England BioLabs, Inc. | B7021S |
| VWR® Midi Plus Electrophoresis System w/15x15cm gel tray) (or similar, if not already available in your lab) | VWR International, LLC  ([us.vwr.com/](https://us.vwr.com/)) | 89032-296 |
| VWRTM 300V Electrophoresis Power Supply (or similar, if not already available in your lab) | VWR International, LLC | 93000-744 |